

# GMSEC

## GSFC Mission Services Evolution Center



### At A Glance

The GMSEC provides efficient and enabling GSFC mission services and products for the next decade.

### Features

- Infrastructure and GMSEC Architecture
- Mission Services Upgrades
- Technology Infusion
- Cross-Mission Lab Support

### Benefits

- Establishes a Single Strategic Direction for Ground and Flight Data Systems Development
- Adopts Portfolio Approach to Managing Existing and New Mission Services Component Development
- Provides a Realistic Mission Operations Environment Testbed for Future Ground System Managers

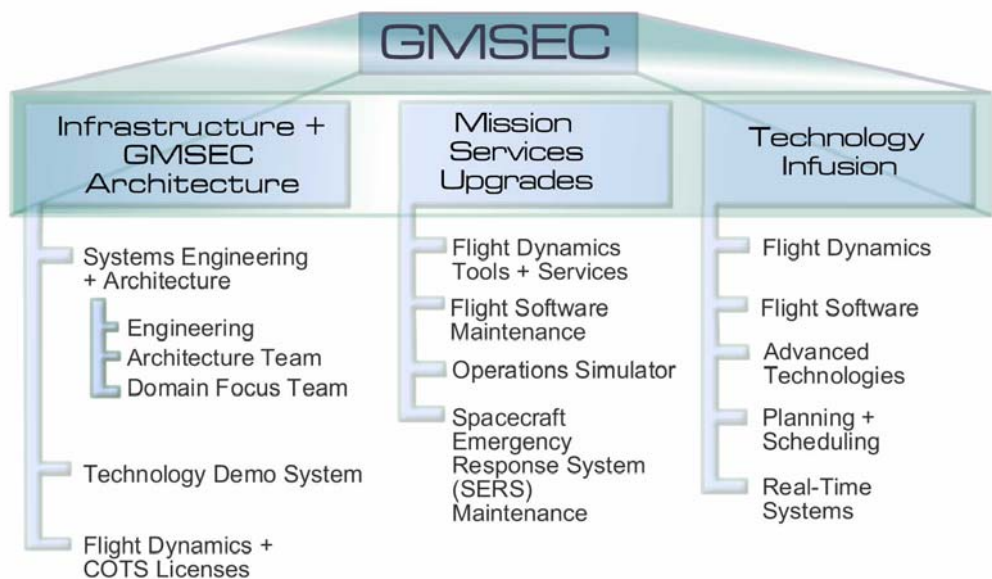
## GMSEC

### Overview

The Goddard Space Flight Center (GSFC) Mission Services Evolution Center (GMSEC) is an integrated effort across multiple GSFC organizations to provide GSFC mission services through the year 2010. GMSEC provides mission enabling and cost and risk reducing data system solutions applicable to current and future Space and Earth Sciences' missions. GMSEC will enable the continued recognition of GSFC as a leader in space mission expertise and services.

### Purpose

GMSEC was chartered to improve how the GSFC development organizations provide mission data systems support for the Earth Sciences and Space Sciences Directorates. To accomplish this, the GMSEC project is divided into three major categories of support, each receiving fairly equal distributions of funding. *Infrastructure and GMSEC Architecture* provides a solution-based Reference Architecture to address end-to-end ground system and flight data system needs. It also provides development and engineering laboratories and laboratory infrastructure support. *Mission Services and Upgrades* provide mission-specific improvements and general support to ongoing missions and their support laboratories. Lastly, *Technology Infusion* provides development of new capabilities and technologies that will benefit current and/or future missions.



### Categories of GMSEC Support

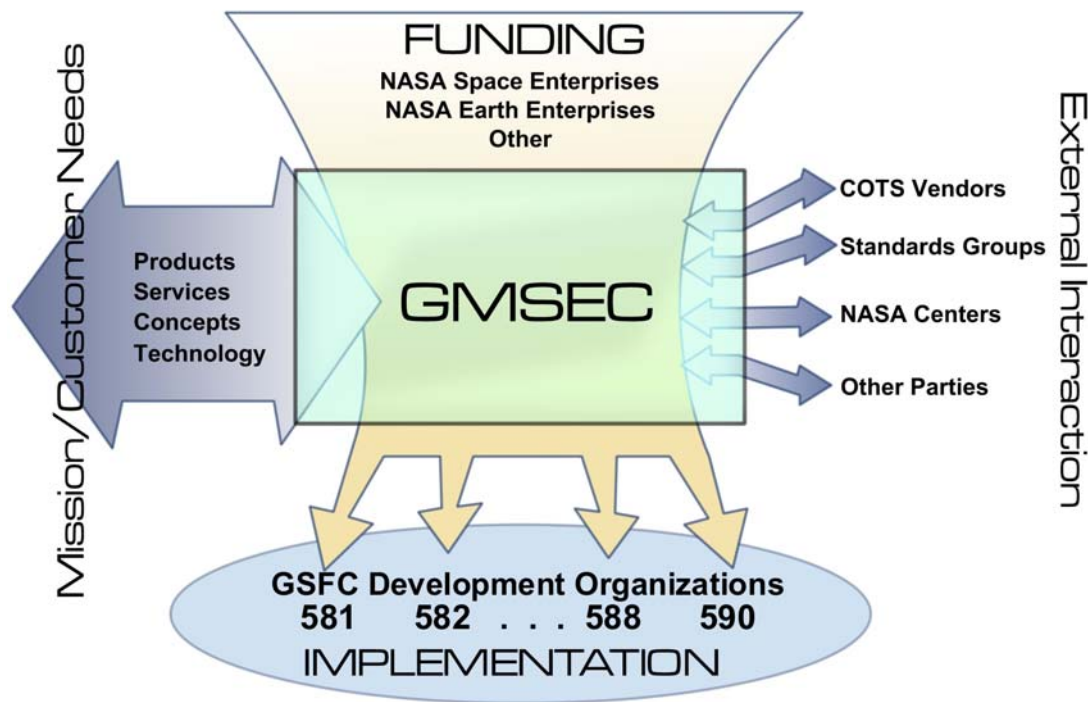
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## GMSEC Organization and Key Relationships

A major factor contributing to the success of the GMSEC initiative is having a strong project team in place whose function is the development and maintenance of key relationships with the GMSEC stakeholders, customers, and technical groups. GMSEC by itself is not a development project per se; it provides program management and identifies GMSEC's strategic direction. GMSEC relies heavily on other organizations, particularly the Code 580 Branches, and groups to provide the required domain expertise and software development. Therefore, it is incumbent upon the GMSEC project team to foster a strong relationship with all entities that have GMSEC ties or interests. The figure below shows how GMSEC interfaces with other organizations and groups and also depicts GMSEC's funding flow.



## Interface Standardization and Reference Architecture

- Allows products to be interchangeable
- Supports new products with minimal integration effort
- Enables end-to-end automation

## Broad Based Participation Encouraged

- Support from flight software to end-users; many development Branches
- Open communications with industry, vendors, and other NASA centers, other government agencies and standards groups
- Regular communication with future mission teams

## It's the Big Picture that Really Counts

- GMSEC looks at the collective needs of many programs
- GMSEC must support current evolving missions as well as new missions

